

# Thromboembolism of the subclavian artery to the vertebral artery with haemorrhagic transformation — a case report

José Maria Pereira de Godoy<sup>1</sup>, Guilherme de Lima Palini<sup>2</sup>, Carlos Eduardo Dall'Aglio Rocha<sup>3</sup>, Marcio Luiz Tostes dos Santos<sup>3</sup>

<sup>1</sup>Department of Cardiology and Cardiovascular Surgery, Medicine School of São Jose do Rio Preto-FAMERP and Researcher CNPq (National Council for Research and Development), Brazil

<sup>2</sup>Physician of Service Vascular Surgery in Medicine School of São Jose do Rio Preto-FAMERP

<sup>3</sup>Department of Neurosurgery in Medicine School of São Jose do Rio Preto-FAMERP

## Abstract

We report on the case of a 56-year-old male patient who, after fainting, regained consciousness in hospital in a confused state complaining of pain in the left arm. In the physical examination, the arm was seen to be cold and without pulse, so an arteriography was performed which identified an aneurysm of the subclavian artery with distal embolus of the upper limb. He was submitted to embolectomy of the limb but evolved with degeneration of the neurological state and so was transferred to a university hospital which confirmed the presence of thromboembolism of the vertebral artery. The upper limb had signs of distal ischaemia, so anticoagulation with heparin was initiated. The patient presented with further deterioration of the neurological condition and a transformation from ischaemic to hemorrhagic stroke was confirmed.

**Key words:** subclavian artery aneurysm, vertebral artery, thromboembolism, haemorrhage

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## Introduction

Subclavian artery aneurysms are relatively rare; there are few cases of aneurysms at the subclavian-vertebral junction mentioned in the literature [1, 2]. One of the possible complications is thromboembolism to the vertebral artery. These aneurysms may be symptomatic [1, 2] or asymptomatic [3].

The objective of the current study is to report the case of thromboembolism of an aneurysm at the subclavian-vertebral artery junction as the first manifestation of disease that evolved into a stroke that transformed from ischaemic to haemorrhagic with the use of anticoagulation.

## Case report

The case of a 56-year-old male patient is reported, who, after fainting, regained consciousness in hospital in a confused state complaining of pain in the left arm. In the physical examination, the arm was seen to be cold and without pulse, so an arteriography was performed, which identified an aneurysm of the subclavian artery with distal embolus of the upper limb (Figures 1 and 2). He was submitted to embolectomy of the limb but evolved with a degeneration of the neurological state and so was transferred to a university hospital, which confirmed the presence of thromboembolism of the vertebral artery (Figure 3) and occlusion of the

Address for correspondence:

Jose Maria Pereira de Godoy

Rua Floriano Peixoto, 2950

15010-020 São José do Rio Preto, SP – Brazil

e-mail: [godoyjmp@riopreto.com.br](mailto:godoyjmp@riopreto.com.br)



**Figure 1.** Aneurysm of the subclavian artery



**Figure 3.** Occlusion of the vertebral artery

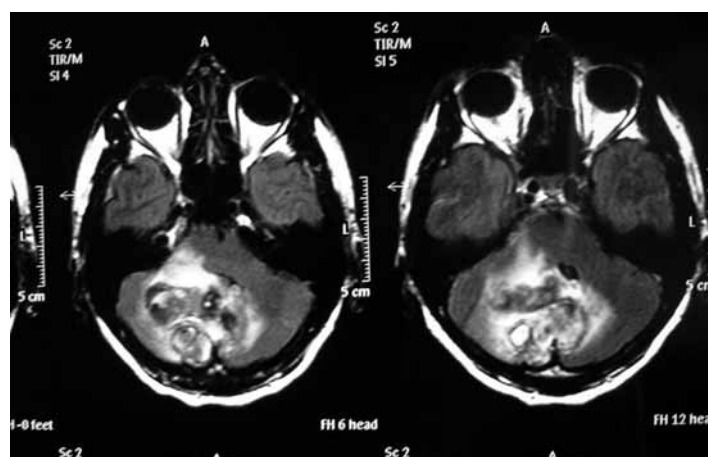


**Figure 2.** Embolus in the axillary artery

subclavian and axillary arteries. The limb evolved with distal ischaemia, and anticoagulation therapy was administered using heparin. The patient presented with further deterioration of the neurological condition and a transformation from ischaemic to haemorrhagic stroke was confirmed (Figure 4).

## Discussion

The current case illustrates the possibility of neurological compromise due to a subclavian artery aneurysm. Fainting followed by pain in the arm associated with the disappearance of the arterial pulse of the limb was indicative of a vascular problem. The first procedure by the vascular surgeon was embolectomy, but the neurological symptoms of the patient were not taken into account. This case serves as a warning of the possibility of emboli



**Figure 4.** Axial T2 FLAIR magnetic resonance with heterogenicity signal compatible with ischaemic stroke transforming to hemorrhagic stroke

of the subclavian artery migrating to the vertebral artery. The deterioration in the mental state led to a cerebral arteriography being performed, which confirmed brain embolisation. Despite of the rarity of this, subclavian aneurysms should be considered a factor as a source of emboligenic conditions of the vertebral artery. The case also illustrates the possibility of ischaemic strokes transforming into haemorrhagic strokes.

## References

1. Suzukawa K, Suzuki H, Fujii T (2004) A case of a subclavian-vertebral junction arterial aneurysm with brain stem thromboembolism. *No Shinkei Geka*, 32: 1151–1155.
2. Gardner MA, Pathare HP (2001) Aneurysms of an aberrant right subclavian artery: report of two cases. *Heart Lung Circ*, 10: 154–157.
3. Schellhammer F, Wobker G, Turowski B (2005) Asymptomatic aneurysm of the subclavian vein. *Acta Radiol*, 46: 366–367.